



EFFECTIVENESS OF CONSTRUCTIVIST APPROACH IN TEACHING LEARNING HISTORY IN TERMS OF ACHIEVEMENT

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ABSTRACT

Constructivist paradigm describes the process of learning as meaning-making, in which individuals construct mental models that ground their understanding in a deeply personal and unique fashion. Constructivism places the learner at the centre stage. Learning becomes the focus rather than teaching. Learning implies constructing meaning and constructing a systems of meaning. The constructivist approach is relevant to all subjects of study but more particularly to study of History. Students' interest level in history is often hard to raise, as they tend to see these topics as outdated and distant from their personal interests and concerns. Hence, a need was felt to study the effectiveness of constructivist approach on the student teachers, who can, in turn, apply it in their classrooms. The effectiveness of Constructivist Approach was studied on Achievement, of the student teachers. 62 students of Kalka Institute for Research and Advanced Studies constituted the sample of the study. A quasi-experimental design was utilized. Students were randomly divided into experimental group and control group. The experimental group was taught using constructivist approach (Inquiry Guided Learning) while the control group was taught using the conventional approach (talk and chalk). The data was analysed quantitatively.

KEYWORDS: Constructivist Approach, Behaviourist Approach, Achievement, Teaching-learning of History, Constructivist Learning Environment.

INTRODUCTION

NCF 2005 has recommended a major paradigm shift from behaviorism to constructivism. Constructivism values developmentally-appropriate facilitator-supported learning that is initiated and directed by the learner. It places the learner at the centre stage. Learning becomes more important than teaching. This is the path through which educators wish to approach students in constructing meaning of new concepts.

The NCF-2005 requires the teacher to be the facilitator of student's learning in a way that the student is helped to construct knowledge for himself/herself. For this, teacher education must engage the theory along with field experiences to help the trainees view knowledge not as external to the learner but as something actively constructed during learning. Teachers need to be trained in organizing activity based, learner centered, participatory learning experiences.

Thus, a TE program is required that would provide adequate scope for viewing a theoretical understanding and its practical aspects in more integrated manner. The teacher therefore must be better equipped for creating a learning environment to suit constructivist approaches and be more responsive to changes in the school system as it envisages this significant paradigm shift.

CONSTRUCTIVISM IN HISTORY CLASS:

The curricular goal of democratic understanding and civic values is centered on an essential understanding of the nation's identity and constitutional heritage; the civic values that form foundation of the nation's constitutional order and promote cohesion between all groups in a pluralistic society; and the rights and responsibilities of all citizens. So there is a need to explore ways History teachers can make their subject more practical by creating opportunities for their students to become socially engaged, and in the process begin to build citizens who are willing to take a stand on issues, by getting into their genesis and who can appreciate the power of individual voices and the dignity of national identity and national pride.

Beyond learning about History, students will directly experience the inquiries, applications, arguments and points of view underneath the facts and opinions they learn. Students have to do History, not just learn its results. Students need to experience what scholars know if they are to understand their work: how key facts and principles are the revealed and powerful fruit of pondering, testing, shaping, and rethinking of experience. For a history course, this means that students should get their hands "dirty." Instead of merely memorizing and regurgitating textbook explanations of the past, they will read a variety of the primary sources from which historians build their understandings of the past. They will create their own historical interpretations, directly from the evidence. They will also contextualize their own work by comparing their findings with those of established scholars and thus be able to refine and improve their work as a historian over time.

Students' interest level in history is often hard to raise, as they tend to see these topics as outdated and distant from their personal interests and concerns (Hoagland, 2000) and hence achievement levels remain low. More importantly, teachers of History often wonder why their subject is not impacting students' attitudes towards social engagement and responsible citizenship (Gupta, 1953;

Yilmaz, 2009). Sometimes, it is not the subject itself that students do not like, but the way it is handled by some teachers that the students tend to lose interest. This leads to the role of Teacher Training Institutions, which must produce the versatile, duty-conscious and innovating History teacher to revolutionise History teaching to make History alive to pupils (Sarpong and Kofi, 1993).

Therefore, an attempt was made in the present study to explore ways by which History teachers can make their subject more interesting and students can have better achievement by creating opportunities for their students to become socially engaged, and in the process begin to build citizens who are willing to take a stand on issues by getting into their genesis and who can appreciate the power of individual voices and the dignity of social engagement and national identity and national pride. This is in consonance with the objectives given by C.B.S.E for teaching history at the secondary level.

An equally pertinent concern is the tampering of History textbooks for political vested interests. Providing the students with the original documents and utilizing Constructivism is an effective way to counter the problem whereby the students are creating their own History. They have the sources to bank upon for their construction of the events that took place in the past.

There is a dire need of researches to establish the impact of Constructivist approach in the areas of Social Sciences, particularly in History as History can be best understood with the help of the original sources and documents.

The teachers who teach History in the Schools are the products of the traditional system, where they have been taught by the conventional approaches. It is said, 'one teaches the way one is taught'. Therefore, in order to ensure the implementation of the constructivist approach in the classrooms, there is a dire need to train the prospective teachers in the constructivist approach so that they are in a position to implement it in their classrooms. Hence, a need was felt to study the effectiveness of constructivist approach on the student teachers, who can, in turn, apply it in their classrooms.

Research Question

Whether the Constructivist Approach affects achievement of the student teachers?

Objective

To study the effectiveness of constructivist approach in terms of achievement of the student teachers.

- To compare the achievement of the student teachers of control group and experimental group in pre test.
- To compare the achievement of the student teachers of control group and experimental group in post test.

Hypotheses

Following null Hypotheses were formulated to be tested statistically:

There is no significant difference in the student teachers of control group and

experimental group with respect to their achievement test scores.

METHODOLOGY

The present study is Quasi-experimental in nature and it utilized pretest-posttest nonequivalent groups design.

Variables	Independent	Dependent
	Inquiry Guided Learning based on Constructivist Approach encompassing the following teaching-learning strategies: a) Projects b) Debate c) Presentations d) Discussion	Achievement

The following variables were controlled:

- Fatigue
- Socio-Economic Status
- Teacher Variable
- Intelligence

POPULATION

All the student teachers enrolled in B.Ed. programmes run by different universities in Delhi and studying Teaching of Social Sciences comprised the population of the present study.

SAMPLE

The Institute was selected using convenience sampling.

All the Teaching of Social Science student teachers of B.Ed of Kalka Institute for Research and Advanced Studies affiliated to Guru Gobind Singh Indraprastha University comprised the sample of the study.

Tools Used

- 1) Constructivist Learning Environment Survey
- 2) Achievement Test
- 3) Upadhyay-Saxena Socio-Economic Status Scale
- 4) Group Test of General Mental Ability
- 5) Teaching Plans
- 6) Rubrics

- 7) Student teachers' write-ups and Researcher's diary

Statistical Procedure Applied

- Mean
- S.D.
- ANCOVA

DISCUSSION AND CONCLUSION

Analysis of Pre Test Scores Related to Achievement

Achievement Test, prepared by the investigator, having 50 items was administered on the sample. The scores of Intelligence were used as covariates. The scores obtained from both the groups have been analysed in this section.

In order to understand the level of achievement before the experimental intervention, mean scores and SD of both the groups were calculated and tabulated in the table (I)

Table 1: Analysis of Mean Scores related to Achievement in Pre Test

Group	N	Mean	Standard Deviation	t-value
Control Group	31	18.8	4.5	0.6018*
Experimental Group	31	19.4	3.25	

*Not significant at 0.05 level of significance

From the table (I), it may be perceived that the mean score of Achievement of control group and experimental groups on pre test of achievement is 18.8 and 19.4 respectively. The standard deviation of control group and experimental group is 4.5 and 3.25 respectively. The calculated value of t (0.6018) being less than the table value of t at 0.05 levels with df 60, the difference between the two means is not statistically significant at .05 level. Hence, both the groups were found to be equal before the experimental intervention was given in terms of their achievement in the Teaching of History.

Analysis of Pre Test Scores Related to Achievement Taking Scores of Intelligence as Covariates

In order to make sure that the achievement scores of the students of control and experimental groups on pre test are not affected by the intelligence level of the students, the scores of intelligence were taken as covariates and ANCOVA was used to compare the achievement scores of control and experimental group on pre test before the experimental intervention.

To compare the pre-test scores of experimental and control groups on pre-test, the significance of difference in the mean scores was calculated using the test of analysis, ANCOVA as shown in table (ii)

Table: 2 Comparison of Achievement test scores of Experimental and Control groups (pre-test) taking Intelligence Test Scores as Covariates

ANCOVA ^{a,b}								
				Experimental Method				
				Sum of Squares	df	Mean Square	F	Sig.
PRE Test Score	Main Effects with Covariates	(Combined)		22.946	2	11.473	.725	.488
		Groups		5.597	1	5.597	.354	.554
		Covariate	Score of Intelligence	17.124	1	17.124	1.083	.302
	Model			22.946	2	11.473	.725	.488
	Residual			933.263	59	15.818		
	Total			956.210	61	15.676		
a. PRE Test Score (50 Questions) by Groups with Score of Intelligence								
b. Covariates entered with main effects								
c. Significant at 0.05 level								

In the above computation, the scores of the students on intelligence test were taken as covariates. Table (ii) shows the values of the variance ratio, F which furnishes an overall test of significance of difference among means. The F ratio was not found to be significant. Hence, no significant difference was found in the means of Experimental group and Control group on pre-test. Hence it is established that there is no significant difference in the level of achievement of control and experimental groups before the experimental intervention was given.

Analysis of Post Test Data Related to Achievement

After teaching both the groups, achievement test was again administered to study the change in the level of achievement of both the groups.

The post test scores of both control group and experimental group were also analysed using mean and standard deviation and t value was calculated.

Table 3: Analysis of Mean Scores related to Achievement in Post Test

Group	N	Mean	Standard Deviation	t-value
Control Group	31	35.51	3	9.23*
Experimental Group	31	41.87	2.39	

*Significant at 0.05 level of significance

The results in the post test of achievement indicate that the experimental group scored significantly higher than the control group with the mean score of experimental group is 41.87 against 35.51 of the control group as shown in table (iii). Standard deviation for control group and experimental group was 3 and 2.39 respectively. The calculated t value (9.23) being more than the table value of t at 0.05 level with df 60, the difference between the two means was found to be significant at .05 level.

Thus, it may be concluded that the difference observed between the two groups in their achievement level is not due to chance and the null hypothesis, thus, stands rejected. Therefore, it can be inferred that achievement level of two groups differs significantly. The learners taught through constructivist approach have higher level of achievement than the learners taught through conventional method.

In pursuance of the above stated objective, F ratio was calculated for the two groups and pre test scores and intelligence test scores were taken as covariates to partial out their effect on the post test scores. The values obtained are depicted in the following table.

Table: 4 ANCOVA - Post Test Scores after Partialling out the Effect of Intelligence and Pre Test Scores

ANCOVA ^{a,b}						
Post Test Score (50 Questions)	Main Effects with Covariates	Experimental Method				
		Sum of Squares	df	Mean Square	F	Sig.
						B
		693.356	3	231.119	35.668	.000
		591.528	1	591.528	91.290	.000
		57.573	1	57.573	8.885	.004
		4.362	1	4.362	.673	.415
		693.356	3	231.119	35.668	.000
		375.821	58	6.480		
		1069.177	61	17.527		

a. Post Test Score (50 Questions) by Groups with Pre Test Score (50 Questions), Score of Intelligence

b. Covariates entered with main effects

c. Significant at 0.05 level

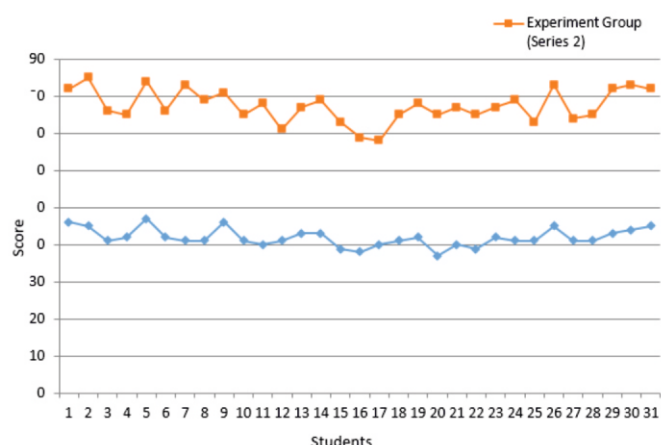


Figure 1 : Graphical Representation of the Achievement Post test scores of the students taught through Conventional approach and Constructivist Approach

Before studying the effectiveness of the constructivist approach, the first and the foremost criterion to ascertain was the creation of constructivist learning environment in the classroom of the experimental group. It was found that during the course of experimental intervention, the constructivist classroom learning environment was created in the experimental group. In a constructivist classroom, the student teachers are given autonomy, learning is contextual and a continuous feedback is provided which helps the student teachers to create his/her own knowledge.

The student teachers exposed to the experimental intervention had a higher level of achievement as compared to control group student teachers. The descriptive analysis of the write-ups of student teachers revealed that they were active through-out the experimental intervention and constructed the concepts for themselves with the help of the other group members. The concept formation was reported to be easy, clear and absorbing, thus resulting in better achievement.

To conclude, it was found that the constructivist approach has a positive effect on achievement of the student teachers. The findings of the present study were consistent with many literature reviews that show the effectiveness of Constructivist approach to teaching learning.

The teacher educators in the pre service teacher education programmes should adopt constructivist approach to teaching-learning History as it leads to higher level of achievement among the student teachers.

1. Conferences, workshops and seminars should be held as a part of inservice programmes to train the teachers in constructivist approach.
2. NCF 2005 recommended the utilization of Constructivist approach in the year 2005 and even after 10 years, the approach is not applied in the actual classrooms. Therefore, there is a dire need to make it mandatory for the

teachers to apply constructivist approach in the classrooms.

3. Constructivist approach should be used for all other subject areas at all levels of teaching and learning as researches undertaken in this area have established the effectiveness of this approach over the conventional approaches.

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